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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,821

06/08/2007

Kan Fujihara

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08/26/2008

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EXAMINER

HAUTH, GALEN H

ART UNIT

PAPER NUMBER

4111

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,821	Applicant(s) FUJIHARA ET AL.	
	Examiner GALEN HAUTH	Art Unit 4111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/25/2006, 03/01/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1-17, drawn to a method for forming a film.

Group 2, claim(s) 18-20, drawn to a film.

2. The inventions listed as Groups 1 and 2 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The common technical feature of groups 1 and 2 is a method of making a film in which a composition is continuously cast to form a gel film, stripped from the supporting substrate, and transported through an oven in which there is substantially no tension applied in the width direction of the film. The common technical feature was found to not define over the prior art *a posteriori* as evidenced by Uhara et al. (Pub No 2004/0010113). Due to the lack of a common special technical feature the two groups are subject to restriction.

3. During a telephone conversation with Scott Daniels on 08/04/2008 a provisional election was made without traverse to prosecute the invention of Group I, claim1-17.

Affirmation of this election must be made by applicant in replying to this Office action.

Claims 18-20 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

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remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. The examiner has required restriction between product and process claims.

Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 6, 10, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Uhara et al. (Pub No 2004/0010113) as evidenced by Dunbar (PN 6949296).

a. With regards to claim 1, Uhara teaches a method for making a film continuously (§ 0079) in which a composition containing a polymer and an organic solvent (§ 0057) is cast onto a surface to form a gel film (§ 0047). The gel film is peeled from the support and carried through an oven with the ends fixed by tenter clips (§ 0075-0076, by fixing the film with tenter clips the film is carried with substantially no tension in the transverse direction as the tenter clips remain equidistant on a manufacturing line as evidenced by Dunbar col 6 ln 17-29 in which Dunbar teaches that tentering is a process for minimal mechanical tension when moving films through an oven such as polyimide as described in the abstract of Dunbar.)

b. With regards to claim 2, Uhara teaches transporting the film using tenter clips (§ 0075-0076, by fixing the film with tenter clips the film is carried with substantially no tension in the transverse direction as the tenter clips remain equidistant on a manufacturing line as evidenced by Dunbar col 6 ln 17-29 in

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which Dunbar teaches that tentering is a process for minimal mechanical tension when moving films through an oven such as polyimide as described in the abstract of Dunbar.)

c. With regards to claim 6, Uhara teaches stretching the film in the transverse direction (§ 0078, by stretching the film by increasing the distance between clips at the edge of the film this results in stretching in the transverse direction.)

d. With regards to claim 10, Uhara teaches that the film is a polyimide film (abstract.)

e. With regards to claim 11, Uhara teaches transporting the film using tenter clips (§ 0075-0076, by fixing the film with tenter clips the film is carried with substantially no tension in the transverse direction as the tenter clips remain equidistant on a manufacturing line as evidenced by Dunbar col 6 ln 17-29 in which Dunbar teaches that tentering is a process for minimal mechanical tension when moving films through an oven such as polyimide as described in the abstract of Dunbar.) Uhara teaches that the film is a polyimide film (abstract).

f. With regards to claim 15, Uhara teaches stretching the film in the transverse direction (§ 0078, by stretching the film by increasing the distance between clips at the edges of the film this results in stretching in the transverse direction.) Uhara teaches that the film is a polyimide film (abstract.)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 3, 4, 5, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uhara et al. (Pub No 2004/0010113) as evidenced by Dunbar (PN 6949296) as applied to claim 1 above.

a. With regards to claim 3, Uhara teaches a method for making a film in which the film is passed through an oven at two temperatures (§ 0077 a lower drying temperature and a higher curing temperature.) Uhara teaches that the film starts at a temperature of 250 degrees Celsius (§ 0104, this temperature is the beginning oven temperature which is less than 300 degrees Celsius.) Uhara does not teach the use of at least two oven units. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use at least two oven units to provide the lower and higher temperatures taught by Uhara,

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because doing so would prevent the oven from constantly raising and lowering the temperature several hundred degrees resulting in process inefficiency and product inconsistency.

b. With regards to claim 4, Uhara teaches a method for making a film in which the film is transported through an oven by tentering clips which is a low tension process as described in the rejection of claim 1 above. Uhara does not teach that the film satisfies the equation where Y equals the width of the film and X equals the width of the tentering clips of

$$20 \geq (Y - X) / Y \times 100 > 0.00$$

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the width of the film close to the width of the tentering clips so as to prevent bowing of the film resulting in an uneven and inconsistent product.

c. With regards to claims 5, 12, 13, and 14 see the rejection of the limitations of claims 2, 3, 4, and 10 above as the preceding claims contain the limitations of the latter claims in combination.

11. Claim 7-9 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uhara et al. (Pub No 2004/0010113) as evidenced by Dunbar (PN 6949296) as applied to claim 1 and 6 above, and further in view of Okahashi et al. (PN 5324475).

a. With regards to claim 7, Uhara as applied to claim 6 above teaches a method for making a film in which the film is stretched in the transverse direction.

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Uhara does not teach that the film satisfies the equation in which Z is the width prior to stretching and W is the width after stretching in which

$$40.0 \geq (W - Z) / Z \times 100 > 0.00$$

Okahashi teaches a method for making a polyimide film from a solution of polyamic acid precursor and organic solvent in which a gel film (similar to Uhara) is stretched in the transverse direction (abstract.) Okahashi teaches that the film is stretched in the machine direction in a ratio of 1.1-1.9 and then in the transverse direction to maintain a transverse/machine stretch ratio of 0.9-1.3 (abstract.) Okahashi teaches stretching the film in the transverse direction to 1.3 times its unstretched length (col 10 ln 2-4, this gives a value of 1.3 for W and 1 for Z resulting in a value of 30.0 which is between 40.0 and 0.00.) Okahashi teaches that stretching the film at this ratio provides in-plane anisotropy with a curling rating of medium in the biaxially stretched film (col 10 ln 6-11.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to stretch the polyimide film of Uhara transversely at a stretch ratio of 1.3 times the original length as taught by Okahashi, because doing so provides in plane anisotropy with a curling rating of medium as Uhara acknowledges stretching (§ 0078) of the polyimide film as does Okahashi (abstract.)

b. With regards to claims 8, 9, 16, and 17, the claims are rejected as they are mere combinations of the limitation of claim 7 rejected above and the limitations in claims 2, 3, 4, 6, and 10 above.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 7:30am-5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sam Yao can be reached on (571)272-1224. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 22, 2008

/GHH/

/Naeem Haq/
Supervisory Patent Examiner, Art Unit 4111